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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HARNES, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			EXAMINER NGUYEN, ALLEN H	
			ART UNIT 2625	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/668,256	Applicant(s) HU ET AL.	
	Examiner Allen H. Nguyen	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities:

Claim 1, line 4, "which coverts" should be changed to - - which converts - -.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is not clear whether the printing data of line 6 is the printing data of line 5 or the printing data of line 4.

It is not clear whether the printing data of line 8 is the printing data of line 4 or the printing data of line 5 or the printing data of line 6.

Regarding claims 2-11 are dependent of claim 1. Therefore, claims 2-11 are rejected for the reason given in claim 1.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-17, 19-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Yokomizo et al. (US 6,321,266).

Regarding claim 1, Yokomizo '266 discloses a color level adjusting module (see col. 27, lines 25-55) for converting and transmitting image data to a printing module, comprising:

a data buffer unit (408, fig. 16), which receives and temporarily holds the image data (col. 27, lines 57-59);

a look-up-table operating unit (404, fig. 16), which converts the image data into printing data (col. 27, lines 28-30);

a selector (409, fig. 16), which distributes the printing data (col. 28, lines 1-4);

a displacement unit (the program code of the CPU 401 that transmits a start command for printing operation, see col. 29, lines 30-45), which transmits the printing data according to a predetermined operation clock (col. 28, lines 63-64);

a data integrated transmission unit (buffer 424 and the transmission hardware for output data to the printer, fig. 16), which transmits the printing data to the printing module (col. 28, lines 61-62).

Regarding claim 2, Yokomizo '266 discloses the color level adjusting module (see col. 27, lines 25-55), wherein the image data comprises text (in a text file form, see col. 72, line 34) and picture information (a single picture element expanded with a page description language, see col. 6, line 25, fig. 30).

Regarding claim 3, Yokomizo '266 discloses the color level adjusting module (see col. 27, lines 25-55), wherein the image data format is gauged by the printing command language (Fig. 27 is a view illustrating a main portion of a code system applied with necessary modifications to a page description language).

Regarding claim 4, Yokomizo '266 discloses the color level adjusting module (see col. 27, lines 25-55), wherein the type of the printing module is selected from parallel and serial (407, fig. 16).

Regarding claim 5, Yokomizo '266 discloses the color level adjusting module (see col. 27, lines 25-55), wherein the image data have a color level property (the image processing part 404 performs LOG conversion when converting RGB data to CMYK DATA, see col. 27, lines 30-32, fig. 16, LUT 404).

Regarding claim 6, Yokomizo '266 discloses the color level adjusting module (see col. 27, lines 25-55), wherein the printing data have a color level property (color balance can be adjusted by the lookup table, col. 27, line 45).

Regarding claim 7, Yokomizo '266 discloses the color level adjusting module (see col. 27, lines 25-55), wherein the operation clock contains a dot clock and a video clock (the video interface includes the horizontal sync signal, vertical sync signal and video clock signal for synchronization with video data, see col. 30, lines 48-50).

Regarding claim 8, Yokomizo '266 discloses the color level adjusting module (see col. 27, lines 25-55), wherein the operation frequency of the video clock is an integer multiple of that of the dot clock (a Centronics I/F control circuit 201 is provided with the data buffer 202A and the control line buffer 203A, and data is processed according to the timing chart, see figs. 21-22).

Regarding claim 9, Yokomizo '266 discloses the color level adjusting module (see col. 27, lines 25-55), wherein the look-up-table unit has a plurality of address data and a plurality of corresponding conversion data (i.e., these processings are set by preparing various tables, storing these tables in the ROM and selecting the tables in accordance with the application as in the case of the image processing circuit 404; see col. 27, lines 45-50, fig. 16, LUT 404, Matrix LUT 405).

Regarding claim 10, Yokomizo '266 discloses the color level adjusting module (see col. 27, lines 25-55), wherein the address data are comprised of binary codes (binary coding processing functions to expand one-bit data which is binary-coded by the image processing circuit 406 to 8-bit data, see col. 28, lines 48-50).

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Regarding claim 11, Yokomizo '266 discloses the color level adjusting module (see col. 27, lines 25-55), wherein the conversion data are comprised of binary codes (the image processing circuit 406 is formed as an image processing ASIC to carry out a binary-coding processing, col. 27, lines 50-51, fig. 16, BIN 406).

Regarding claim 12, Yokomizo '266 discloses a color level adjusting method (see col. 27, lines 25-55) for converting and transmitting image data to a printing module, comprising the steps of:

reading the image data (reads out the data, col. 29, line 11);

storing the image data (i.e., image data read, is also temporarily stored in the band memory; see col. 29, lines 22-24, fig. 16, DRAM 408);

performing a table look-up operation (The image processing circuit 404 is formed as an image processing ASIC to carry out graduation conversion according to the lookup table, see col. 27, lines 28-30) for the image data and converting the image data into printing data (the image processing part 404 performs LOG conversion when converting RGB data to CMYK DATA, see col. 27, lines 30-32);

performing a printing data transmission operation according to the type of the printing module (A serial/parallel converter 407 converts 8-bit parallel data from the CPU 401 to serial data for communications to the scanner 95A and the printer 95B).

Regarding claim 13, Yokomizo '266 discloses the method, wherein the printing data transmission operation is executed through a data integrated transmission unit

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(RGB data is converted to RGB color spaces to be internally used in the printer 95B and transferred to the printer 95B through the buffer 421 and the interface 424, see col. 29, lines 40-45).

Regarding claim 14, Yokomizo '266 discloses the method, wherein the image data comprises text (in a text file form, see col. 72, line 34) and picture information (a single picture element expanded with a page description language, see col. 6, line 25, fig. 30).

Regarding claim 15, Yokomizo '266 discloses the method, wherein the type of the printing module is selected from parallel and serial (the parallel/serial converter 407, fig. 16).

Regarding claim 16, Yokomizo '266 discloses the method, wherein the image data have a color level property (the image processing part 404 performs LOG conversion when converting RGB data to CMYK DATA, see col. 27, lines 30-32, fig. 16, LUT 404).

Regarding claim 17, Yokomizo '266 discloses the method, wherein the printing data have a color level property (color balance can be adjusted by the lookup table, col. 27, line 45).

Regarding claim 19, Yokomizo '266 discloses the method, wherein the format of the image data is gauged by the printing command language (Fig. 27 is a view illustrating a main portion of a code system applied with necessary modifications to a page description language).

Regarding claim 20, Yokomizo '266 discloses the method, wherein the step of transmitting the printing data includes the step of displacing in order the printing data to the printing module (i.e., the image is processed in accordance with the predetermined parameters, and NTSC-RGB data is converted to RGB color spaces to be internally used in the printer 95B and transferred to the printer 95B through the buffer 421 and the interface 424; see col. 29, lines 39-43, fig. 16).

Regarding claim 21, Yokomizo '266 discloses the method, wherein the step of transmitting the printing data further includes the steps of:

using a characteristic curve of the printing module to convert the printing data (see fig. 22);

transmitting the serial data (A serial/parallel converter 407 converts 8-bit parallel data from the CPU 401 to serial data for communications to the scanner 95A and the printer 95B, see col. 27, lines 53-55).

Regarding claim 22, Yokomizo '266 discloses the method, wherein the step of transmitting the printing data further includes the steps of:

setting an operation clock according to the format of the printing data (data flows according to the clock signals for images, see col. 27, line 60);

converting the printing data into serial data (A serial/parallel converter 407 converts 8-bit parallel data from the CPU 401 to serial data, see col. 27, lines 53-55);

displacing in order the printing data according to the operation clock (a buffering for the size of one band is requires, col. 27, lines 60-64).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yokomizo et al. (US 6,321,266) in view of Shimizu (US 2002/0140983).

Regarding claim 18, Yokomizo '266 discloses the method, wherein the step of reading the image data further includes the step of compiling the image data (The data direction converter 19 converts a video data format, see col. 10, lines 41-45, fig. 1),

Yokomizo '266 does not disclose the method, wherein performing a half-tone conversion operation.

However, the above-mentioned claimed limitation is well known in the art as evidenced by Shimizu '983. In particular, Shimizu '983 teaches the method, wherein performing a half-tone conversion operation (The printer 60 receives the halftone dot

data representative of the binary area tonal image thus subjected to the image conversion, see page 4, paragraph [0060]).

In view of the above, having the system of Yokomizo '266 and then given the well-established teaching of Shimizu '983, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Yokomizo '266 as taught by Shimizu '983, since Shimizu '983 stated on page 1, paragraph [0005] that such a modification would ensure the halftone dot data representative of the binary area tonal image thus generated.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ueda et al. (US 5,619,349) discloses crt calibration device for calibrating display color of a crt to a color standard.

Kimmrusch et al. (5,539,473) discloses dot clock generation with minimal clock skew.

Hohmann et al. (US 5,036,216) discloses video dot clock generator.

Murakami et al. (US 5,010,401) discloses picture coding and decoding apparatus using vector quantization.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen H. Nguyen whose telephone number is 571-270-1229. The examiner can normally be reached on M-F from 9:00 AM-6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on (571)-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



KING Y. POON
~~PRIMARY~~ EXAMINER

Supervising Patent

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